



Attorney's Docket No.: 07043-100001 / B01-005

3626  
85  
11/21/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Eiji Shimada and Ronald S.  
Fearing

Art Unit : 3626  
Examiner : Unknown

Serial No. : 10/004,235

Filed : October 31, 2001

Title : AN APPARATUS AND METHOD FOR MANIPULATION OF AN OBJECT

Commissioner for Patents  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached form PTO-1449, copies of which are enclosed.

This statement is being filed before the receipt of a first Office action on the merits.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date:

10 / 16 / 02

William J. Egan, III  
Reg. No. 28,411

Fish & Richardson P.C.  
500 Arguello Street, Suite 500  
Redwood City, California 94063  
Telephone: (650) 839-5070  
Facsimile: (650) 839-5071

50109340

RECEIVED  
OCT 31 2002  
GROUP 3600  
RECEIVED  
OCT 31 2002  
MAIL ROOM

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

OCTOBER 16, 2002  
Date of Deposit

Signature

EMMA F. DURRELL  
Typed or Printed Name of Person Signing Certificate

Substitute Form PTO-1449 (Modified)  <b>Information Disclosure Statement</b> <b>by Applicant</b> (Use several sheets if necessary)  (37 CFR §1.98(b))	Department of Commerce Patent and Trademark Office	Attorney's Docket No. 07043-100001	Application No. 10/004,235
	Applicant Eiji Shimada and Ronald S. Fearing		
	Filing Date October 31, 2001	Group Art Unit 3626	

**U.S. Patent Documents**

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

**RECEIVED**  
 OCT 23 2002  
 GROUP 3600

**Foreign Patent Documents or Published Foreign Patent Applications**

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AL							
	AM							
	AN							
	AO							
	AP							

**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	AQ	Peter K. Allen, et al., "A System for Programming and Controlling a Multisensor Robotic Hand," <i>IEEE Transactions on Systems, Man, and Cybernetics</i> , Vol. 20, No. 6, November/December 1990, pages 1450-1456
	AR	Antonio Bicchi, "Hands for Dexterous Manipulation and Robust Grasping: A Difficult Road Toward Simplicity," <i>IEEE Transactions on Robotics and Automation</i> , Vol. 16, No. 6, December 2000, pages 652-662
	AS	Randy C. Brost, "Automatic Grasp Planning in the Presence of Uncertainty," <i>Proceedings 1986 IEEE International Conference on Robotics and Automation</i> , Vol. 3, 1986, pages 1575-1581

Examiner Signature

Date Considered

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute Form PTO-1449 (Modified)  <b>Information Disclosure Statement</b> by Applicant (Use several sheets if necessary)  (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 07043-100001	Application No. 10/004,235
	Applicant Eiji Shimada and Ronald S. Fearing		
	Filing Date October 31, 2001	Group Art Unit 3626	

**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	AT	Brian Carlisle, et al., "A Pivoting Gripper for Feeding Industrial Parts," <u>IEEE</u> , 1994, pages 1650-1655,
	AU	Alain Codourey, et al., "A Robot System for Automated Handling in Micro-World," <u>IEEE</u> , Institute of Robotics, ETH-Zurich, CLA, 8092 Zurich, 1995, pages 185-190
	AV	Michael Erdmann, et al., "Mechanical Parts Orienting: The Case of a Polyhedron on a Table," <u>Algorithmica</u> , Vol. 10, 1993, pages 226-247
	AW	Ronald S. Fearing, "Simplified Grasping and Manipulation with Dextrous Robot Hands," <u>IEEE Journal of Robotics and Automation</u> , Vol. RA-2, No. 4, December 1986, pages 188-195
	AX	Ronald S. Fearing, "Survey of Sticking Effects for Micro Parts Handling," <u>IEEE</u> , Dept. of EE&CS, University of California, Berkeley, CA, 1995, pages 212-217
	AY	John T. Feddema, et al., "Visual Servoing and CAD-Driven Microassembly," <u>IEEE Robotics and Automation Magazine</u> , December 1998, pages 18-24
	AZ	K. Goldberg, "Orienting Polygonal Parts Without Sensors," <u>Algorithmica</u> , Special Issue on Computational Robotics, Vol. 10, No. 3, pp. 201-225, August 1993
	AAA	Swaminathan Gopalswamy, et al., "Grasping Polyhedral Objects with Slip," <u>IEEE</u> , 1989, pages 296-301
	ABB	Takeshi Kasaya, et al., "Micro Object Handling Under SEM by Vision-based Automatic Control," <u>SPIE</u> , Vol. 3519, November 1998, pages 181-192
	ACC	Bradley J. Nelson, et al., "Sensor-Based Microassembly of Hybrid MEMS Devices," <u>IEEE</u> , December 1998, pages 35-45
	ADD	Anil Rao, et al., "Complete Algorithms for Feeding Polyhedral Parts Using Pivot Grasps," <u>IEEE Transactions on Robotics and Automation</u> , Vol. 12, No. 2, April 1996, pages 331-342
	AEE	Daniela Rus, "Coordinated Manipulation of Polygonal Objects," <u>Proceedings of the 1993 IEEE/RSJ International Conference on Intelligent Robots and Systems</u> , Yokohama, Japan, July 26-30, 1993, pages 106-112
	AFF	E. Shimada, et al., "Prototyping Millirobots Using Dextrous Microassembly and Folding," <u>Proceedings of the ASME Dynamic Systems and Control Division</u> , DSC-Vol. 69-2, 2000, pages 933-940
	AGG	Metin Sitti, et al., "Two-Dimensional Fine Particle Positioning Using a Piezoresistive Cantilever as a Micro/Nano-Manipulator," <u>Proceedings of the 1999 IEEE International Conference on Robotics and Automation</u> , Detroit, Michigan, May 1999, pages 2729-2735.
	AHH	A. Sulzmann, et al., "New developments in 3D Computer Vision for Microassembly," <u>SPIE</u> , Vol. 3519, November 1998, pages 36-46
	AII	Jeff Wiegley, et al., "A complete algorithm for designing passive fences to orient parts," <u>Assembly Automation</u> , Vol. 17, No. 2, 1997, pages 129-136.
	AJJ	Tsuneo Yoshikawa, et al., "Object Handling by Three-Fingered Hands Using Slip Motion," <u>Proceedings of the 1993 IEEE/RSJ International Conference on Intelligent Robots and Systems</u> , Yokohama, Japan, July 26-30 1993, pages 99-105
	AKK	Wolfgang Zesch, et al., "Alignment of Microparts Using Force Controlled Pushing," <u>SPIE</u> , Vol. 3519, pages 148-156
	ALL	Y. Zhou, et al., "Adhesion force modeling and measurement for micromanipulation," <u>SPIE</u> , Vol. 3519, pages 169-180

GROUP 3600

RECEIVED

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	